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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,795	11/04/2003	Nereo Pallaro	Q78233	3993

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EXAMINER	
MISLEH, JUSTIN P	

ART UNIT	PAPER NUMBER
2622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/699,795	PALLARO ET AL.	
	Examiner	Art Unit	
	Justin P. Misleh	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 10 and 26* is/are rejected.

7)☒ Claim(s) *11 - 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 October 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. For this application, prosecution on the merits was closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935). However, upon further consideration, a new grounds of rejection is made in view of Talbot (GB 2 311 602 A). Therefore, this Office action is Non-Final.

2. Applicant's arguments with respect to Claim 1 have been considered but are moot in view of the new grounds of rejection.

Claim Objections

1. **Claims 1 – 26** are objected to because of the following informalities: lack of clarity and precision.

2. The claims generally lack clarity and precision. For instance, the claims may refer to "the sensitive area" in some claims and then subsequently refer to "the matrix" in some other claims. The claims may refer to "said area" in some claims and also refer to "said sub-area" in some other claims. These are a few examples of the various informalities that result in an overall lack of clarity and precision within the claims. **Appropriate correction of these informalities is required.**

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 4 – 6** are rejected under 35 U.S.C. 102(b) as being anticipated by Talbot (GB 2 311 602 A).

5. For **Claim 1**, Talbot discloses, as shown in figures 1 and 2, a visual system, comprising:

a CCD or CMOS matrix (CCD 26 – figure 1) having a sensitive areas, and

a plurality of optical devices (32a-32d – figure 1) with different directions and/or fields of view and/or modes of optical separation (see figure 2),

wherein said sensitive area of the matrix (26) is divided into a plurality of separated sub-areas designed for different specific functions (see page 4, lines 3 – 7), part of said plurality of sub-areas being dedicated to scene monitoring (see page 4, lines 3 – 7) and part of the said plurality of sub-areas being dedicated to detection of environmental parameters (see page 4, lines 10 - 17), said division being achieved by said plurality of optical devices (see page 4, lines 3 – 18).

6. As for **Claim 4**, Talbot discloses, as shown in figure 2 and stated on page 4 (lines 10 - 17), wherein at least one of the sub-areas is designed for front monitoring (front windscreen 14).

7. As for **Claim 5**, Talbot discloses, as stated on page 2 (lines 14 - 21) and on page 4 (lines 10 - 17), wherein the sensitive area of the matrix (26) also has a specific sub-area for rain and misting detection ("determine ... when misting"; "any water thereon").

8. As for **Claim 6**, Talbot discloses, as stated on page 4 (lines 10 – 17), wherein the sensitive area of the matrix (26) further comprises an additional specific sub-area for vehicle meeting detection ("forms an image of a scene including part of the front windscreen 14, any water thereon, and whatever is in front of the vehicle and visible through the front windscreen 14.").

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Talbot (GB 2 311 602 A).

11. As for **Claim 3**, Talbot discloses, as stated on page 3 (line 18), a CCD camera element (26). Applicant's claim language requires at least a linear or logarithmic and monochromatic or color matrix. There are no other possible image sensors. Although Talbot doesn't specify the exact type of CCD, it must be one of the above types. However, Talbot doesn't specify that a CMOS image sensor may be used in view of a CCD image sensor.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of replacing a CCD image sensor with a VGA CMOS image sensor are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have replaced Talbot's CCD image sensor with a VGA CMOS

image sensor for the advantages of *providing a sensor with lower power consumption, higher quantum efficiency, lower read noise, higher dynamic range, and a randomly addressed matrix.*

12. **Claims 2, 7, and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Talbot (GB 2 311 602 A) in view of Vachss (US 5,313,072).

13. As for **Claim 2**, Talbot discloses, as shown in figures 1 and 2 and as stated on page 4 (lines 3 – 17), wherein the system is installed in a motor vehicle and performs rain detection, windscreen misting detection, and vehicle meeting detection, and monitoring of a scene in front of the vehicle (claim language requires one or more functions).

However, Talbot does not specify wherein the visual system is installed on a front portion of an inner rear-view mirror.

On the other hand, Vachss also discloses a visual system for installation in a motor vehicle. Specifically, Vachss provides, as shown in figure 1, a visual system (16) installed in a motor vehicle, wherein the visual system includes a detector array (18). Additionally, Vachss teaches, as stated in column 2 (lines 52 - 59), wherein the visual system is installed on a front portion of an inner rear-view mirror.

Based on these teachings, at the time the invention was made, the Examiner believes it would have been obvious one with ordinary skill in the art to have installed the visual system on a front portion of an inner rear-view mirror, as taught by Vachss, in the visual system, disclosed by Talbot, for the advantage of *automatic activation of a windshield wiper system at an optimum speed and/or frequency in response to changing rates of precipitation* (see Vachss, column 2, lines 10 - 13).

14. As for **Claim 7**, Talbot discloses, as shown in figures 1 and 2 and as stated on page 4 (lines 3 – 17), wherein the system is installed in a motor vehicle and performs rain detection.

However, Talbot does not specify wherein the rain detection functions with an emitter.

On the other hand, Vachss also discloses a visual system for installation in a motor vehicle. Specifically, Vachss provides, as shown in figure 1, a visual system (16) installed in a motor vehicle, wherein the visual system includes a detector array (18) and performs rain detection (see column 2, lines 20 – 25). Additionally, Vachss teaches, as stated in column 2 (lines 49 - 59), wherein the rain detection functions with an emitter (11).

Based on these teachings, at the time the invention was made, the Examiner believes it would have been obvious one with ordinary skill in the art to have made the rain detection function with an emitter, as taught by Vachss, in the visual system, disclosed by Talbot, for the advantage of *automatic activation of a windshield wiper system at an optimum speed and/or frequency in response to changing rates of precipitation* (see Vachss, column 2, lines 10 - 13).

15. As for **Claim 8**, Talbot discloses, as stated on page 4 (lines 10 – 17), wherein said area dedicated to rain function is also dedicated to wind-screen misting function.

16. **Claims 9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Talbot (GB 2 311 602 A) in view of Vachss (US 5,313,072) in further view of Stam et al. (US 6,587,573 B1).

17. As for **Claims 9 and 10**, Talbot discloses, as shown in figures 1 and 2 and as stated on page 4 (lines 3 – 17), wherein the system is installed in a motor vehicle and performs rain

detection, windscreen misting detection, and vehicle meeting detection, and monitoring of a scene in front of the vehicle.

However, Talbot does not specify wherein the visual system performs tunnel detection and a dusk function and performing those functions where front monitoring is also performed.

On the other hand, Stam et al. also provide a visual system installed on an inner rear-view mirror of a vehicle, wherein the visual system includes an image sensor having sub-areas dedicated to specific functions. Specifically, Stam et al. teach, as shown in figure 7, an image sensor (301) for use in a vehicle visual system, wherein the image sensor has several sub-areas (702, 703) dedicated to specific functions including front monitoring (see column 8, lines 12 – 20 and 45 – 50; column 9, lines 11 – 16 and 49 – 54; and column 21, lines 40 – 55). Stam et al. further teach wherein the sub-areas dedicated to front monitoring (702, 703) may also be used for tunnel detection and a dusk function (see column 36, lines 36 - 60).

Hence, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included the above features, including using the front monitoring area for tunnel detection and a dusk function, as taught by Stam et al., in the visual system, disclosed by Talbot, for the advantage of *providing a reliable and intelligent automatic head lamp control system for the vehicle* (see column 2, lines 26 and 27).

18. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Talbot (GB 2 311 602 A) in view of Stam et al. (US 6,587,573 B1).

19. As for **Claim 26**, Talbot discloses, as shown in figures 1 and 2 and as stated on page 4 (lines 3 – 17), wherein the system is installed in a motor vehicle and performs rain detection,

windscreen misting detection, and vehicle meeting detection, and monitoring of a scene in front of the vehicle.

However, Talbot does not specify wherein the some sub-areas are reserved for unused pixels necessary as additional separation between used sub-areas.

On the other hand, Stam et al. also provide a visual system installed on an inner rear-view mirror of a vehicle, wherein the visual system includes an image sensor having sub-areas dedicated to specific functions. Specifically, Stam et al. teach, as shown in figure 7, an image sensor (301) for use in a vehicle visual system, wherein the image sensor has several sub-areas (702, 703) dedicated to specific functions including front monitoring (see column 8, lines 12 – 20 and 45 – 50; column 9, lines 11 – 16 and 49 – 54; and column 21, lines 40 – 55). Stam et al. further teach wherein some sub-areas are reserved for unused pixels necessary as additional separation between used sub-areas (see column 24, lines 40 – 55).

Hence, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included the above features, including where some sub-areas are reserved for unused pixels necessary as additional separation between used sub-areas, as taught by Stam et al., in the visual system, disclosed by Talbot, for the advantage of *providing a reliable and intelligent automatic head lamp control system for the vehicle* (see column 2, lines 26 and 27).

Allowable Subject Matter

20. **Claims 11 – 25** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. As for **Claim 11**, the closest prior art discloses a visual system installed on an inner rear-view mirror of a vehicle, wherein the visual system includes an image sensor having sub-areas dedicated to specific functions and the image sensor for use in a vehicle visual system, wherein the image sensor has several sub-areas dedicated to specific functions including front monitoring, and wherein the sub-areas dedicated to front monitoring may also be used for tunnel detection and a dusk function.

However, the closest prior art does not teach or fairly suggest wherein a fog function is performed both with a dedicated sub-area, with an active technique for local fog detection, and with passive technique for fog bank detection in another sub-area corresponding to the one dedicated to front monitoring or contained therein.

22. As for **Claim 13**, the closest prior art discloses a visual system installed on an inner rear-view mirror of a vehicle, wherein the visual system includes an image sensor having sub-areas dedicated to specific functions and the image sensor for use in a vehicle visual system, wherein the visual system includes a protection housing for supporting a lens system.

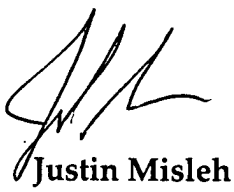
However, the closest prior art does not teach or fairly suggest wherein the matrix sensor has a protection window made of glass or transparent plastic, also acting as support for one or more optical fibers and a prism carrying to selected sub-areas of the matrix an optical signal picked up by the prism.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lin Ye can be reached on 571.272.7372. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Justin Misleh
Examiner, GAU 2622
January 7, 2008